

Listing of Claims

1. (Currently Amended) An antenna system for a base station comprising:

a support structure; and

a multiband/multichannel wireless feeder configured for coupling an antenna located proximate the top of a support structure with electronics located proximate the base of the support structure;

the multiband/multichannel wireless feeder including a ~~flexible~~ bendable waveguide and a first multiplexing waveguide network coupled at ~~each~~ an end of the bendable waveguide to couple with multiple antennas and ~~coupled respectively with the antenna and the~~ a second multiplexing waveguide network coupled at an opposite end of the bendable waveguide to couple simultaneously with electronics operating in at least two different frequency bands, the multiplexing waveguide networks configured to combine multiple frequencies and applications associated with the antennas and electronics;

to overcome losses typically associated with coaxial cables.
2. (Cancelled)
3. (Currently Amended) The antenna system of claim 1, wherein the ~~flexible~~ bendable waveguide is an elliptical waveguide.

4. (Currently Amended) The antenna system of claim 1, wherein the ~~flexible~~ bendable waveguide is a circular waveguide.
5. (Previously Presented) The antenna system of claim 1, wherein a first application is in a 3G system and is combined by the waveguide network with a second application that is in a PCS system.
6. (Currently Amended) A multiband/multichannel wireless feeder configured for use in a base station to couple [an] antennas with electronics of the base station, the multiband/multichannel wireless feeder comprising:
- a ~~flexible~~ bendable waveguide having a coupling at each end; [and]
 - a first multiplexing waveguide network coupled at ~~each~~ an end of the waveguide and configured to couple with ~~a respective~~ multiple antennas;
 - a second multiplexing waveguide network coupled at an opposite end of the waveguide to couple simultaneously with ~~or~~ electronics of the base station operating in at least two different frequency bands, the multiplexing networks configured to combine multiple frequencies and applications associated with the antennas and electronics.
7. (Currently Amended) The multiband/multichannel wireless feeder of claim 6,

wherein the ~~flexible~~ bendable waveguide is an elliptical waveguide.

8. (Currently Amended) The multiband/multichannel wireless feeder of claim 6,
wherein the flexible bendable waveguide is a circular waveguide.

9. (Previously Presented) The multiband/multichannel feeder of claim 6, wherein the first application is in a 3G system and is combined by the waveguide network with the second application that is in a PCS system.

10. (Currently Amended) A method of transmitting wireless signals at a base station between an antennas proximate the top of a support structure and electronics proximate the base of a support structure, the method comprising:

coupling antennas located proximate the top of a support structure to a first multiplexing waveguide network and coupling electronics operating in at least two different frequency bands and located proximate the base of the support structure to a second ~~respective~~ multiplexing waveguide network[s], the multiplexing waveguide networks respectively configured to combine frequencies and applications associated with the antennas and electronics;

coupling a ~~flexible~~ bendable waveguide between the respective multiplexing waveguide networks to extend along the support structure and couple together the

antennas and electronics to handle the frequencies and applications associated therewith.

11. (Cancelled)

12. (Previously Presented) The antenna system of claim 1 wherein said applications include at least one of a 2G, 2.5G, GRPS, IMT-2000, UMTS, CDMA, W-CDMA, FOMA, CDMA2000 system.

13. (Previously Presented) The antenna system of claim 1 wherein the multiplexing waveguide network includes a multi-frequency waveguide combiner.

14. (Previously Presented) The antenna system of claim 13 wherein the waveguide combiner utilizes a single polarization.

15. (Previously Presented) The antenna system of claim 13 wherein the waveguide combiner utilizes multiple polarizations.

16. (Cancel)

17. (Previously Presented) The multiband/multichannel wireless feeder of claim 6 wherein said applications include at least one of a 2G, 2.5G, GRPS, IMT-2000, UMTS, CDMA, W-CDMA, FOMA, CDMA2000 system.

18. (Previously Presented) The multiband/multichannel wireless feeder of claim 6 wherein the multiplexing waveguide network includes a multi-frequency waveguide combiner.

19. (Previously Presented) The multiband/multichannel wireless feeder of claim 6 wherein the waveguide combiner utilizes a single polarization.

20. (Previously Presented) The multiband/multichannel wireless feeder of claim 6 wherein the waveguide combiner utilizes multiple polarizations.

21. (Canceled)

22. (Previously Presented) The method of claim 10 wherein the multiplexing waveguide networks are configured to handle multiple different applications.

23. (Previously Presented) The method of claim 22 wherein said applications include at least one of a 2G, 2.5G, GRPS, IMT-2000, UMTS, CDMA, W-CDMA, FOMA, CDMA2000 system.

24. (Previously Presented) The method of claim 10 wherein the multiplexing waveguide networks include a multi-frequency waveguide combiner for handling different frequencies.

25. (Previously Presented) The method of claim 24 wherein the waveguide combiner utilizes a single polarization.

26. (Previously Presented) The method of claim 24 wherein the waveguide combiner utilizes multiple polarizations.

27. (Previously Presented) The method of claim 10, wherein the waveguide is an elliptical waveguide.

28. (Previously Presented) The method of claim 10, wherein the waveguide is a circular waveguide.

29. (Currently Amended) A wireless communication system base station comprising:

- a support structure;
- at least ~~one~~ two antennas proximate a top of the support structure;
- electronics located proximate a base of the support structure operating in at least two different frequency bands;
- a multiband/multichannel wireless feeder configured for coupling the antenna with the electronics;
- the multiband/multichannel wireless feeder including:
 - a ~~flexible~~ bendable waveguide extending along the support structure; and
 - a first multiplexing waveguide network coupled at an ~~each~~ end of the waveguide and coupled respectively with the multiple antennas and a second multiplexing waveguide network coupled at an opposite end of the waveguide to couple simultaneously with the electronics, the multiplexing waveguide networks configured to combine multiple frequencies and applications associated with the antenna and electronics;
 - to overcome losses typically associated with coaxial cables.

30. (Cancelled)

31. (Currently Amended) The wireless communication system of claim 29, wherein the ~~flexible~~ bendable waveguide is an elliptical waveguide.
32. (Currently Amended) The wireless communication system of claim 29, wherein the ~~flexible~~ bendable waveguide is a circular waveguide.
33. (Previously Presented) The wireless communication system of claim 29, wherein a first application is in a 3G system and is combined by the waveguide network with a second application that is in a PCS system.
34. (Previously Presented) The wireless communication system of claim 29 wherein said applications include at least one of a 2G, 2.5G, GRPS, IMT-2000, UMTS, CDMA, W-CDMA, FOMA, CDMA2000 system.
35. (Previously Presented) The wireless communication system of claim 29 wherein the multiplexing waveguide networks each include a multi-frequency waveguide combiner.
36. (Previously Presented) The wireless communication system of claim 29 wherein the waveguide combiner utilizes a single polarization.

37. (Previously Presented) The wireless communication system of claim 29 wherein the waveguide combiner utilizes multiple polarizations.

38. (Cancelled)